

**Montana Board of Oil and Gas Conservation
Environmental Assessment**

Operator: Fidelity Exploration and Production Company
Well Name/Number: State No. 1503
Location: SW SE Section 36 T32N R34E
County: Valley, **MT;** **Field (or Wildcat)** Bowdoin Dome

Air Quality

(possible concerns)

Long drilling time: No, 2 to 3 days drilling time.

Unusually deep drilling (high horsepower rig): No, 1800' TD, small single derrick drilling rig.

Possible H2S gas production: No, none expected.

In/near Class I air quality area: No Class I air quality area.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☒ Other: Gas gathering lines and compressors exist within the Bowdoin Gas Field.

Comments: No special concerns – using small rig to drill to 1800' TD.

Water Quality

(possible concerns)

Salt/oil based mud: No, freshwater and freshwater mud system.

High water table: No high water table anticipated.

Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary to the Milk River, about 1/16 of a mile to the east from this location.

Water well contamination: No, closet water wells nearby are shallower than 100' in depth. Closest water wells are about 1/2 to 5/8 of a mile to the south southwest from this location. Surface hole will be drilled to 150' with freshwater and freshwater muds to protect shallow groundwaters. Steel surface casing will be set and cemented to surface. If productive production casing will be set and cemented back to surface to protect groundwaters.

Porous/permeable soils: No, sandy silty bentonitic soils.

Class I stream drainage: No Class I stream drainages.

Mitigation:

☐ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☐ Off-site disposal of solids/liquids (in approved facility)

☐ Other: _____

Comments: 150' of surface casing cemented to surface adequate to protect freshwater zones. Also, fresh water mud systems to be used. Production casing will be cemented to surface.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No, stream crossings

High erosion potential: No, small cut, up to 1.0' and no fill, up to 0.0', required.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, 120'X190' location size required.

Damage to improvements: Slight, surface use appears to be cultivated fields.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☐ Other _____

Comments: Access will be over existing county roads and existing farm trails. A short access road will be built from an existing farm trail into this location. Cuttings and mud solids will be buried in the unlined drilling pits. Fluids will either be hauled to a nearby stock pond, with surface owner approval or allowed to dry in the unlined pits. Pits will be backfilled after being allowed to dry. No special concerns

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Residences and buildings about 5/8 of a mile to the south southwest and 3/4 of a mile to the southeast from this location.

Possibility of H2S: None anticipated.

Size of rig/length of drilling time: Small drilling rig/short 2 to 3 days drilling time

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H2S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Adequate surface casing and operational BOP should mitigate any problems. No concerns.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation site: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Listed threatened or endangered species for Valley County are Pallid Sturgeon, Piping Plover, Interior Least Tern, Black Footed Ferret and Whooping Crane. Species of concern is the Greater Sage Grouse.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)
- ☒ Other agency review (DFWP, federal agencies, DSL)
- ☐ Screening/fencing of pits, drillsite
- ☐ Other: _____

Comments: Private cultivated land surface. DNRC Trust Lands Mineral lease, Trust Lands will do surface EA.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites None identified

Mitigation

- ☐ avoidance (topographic tolerance, location exception)
- ☐ other agency review (SHPO, DSL, federal agencies)
- ☐ Other: _____

Comments: No concerns private surface lands. DNRC Trust Lands Mineral lease, Trust Lands will do surface EA.

Social/Economic

(possible concerns)

- ☐ Substantial effect on tax base
- ☐ Create demand for new governmental services
- ☐ Population increase or relocation

Comments: No concerns, development well in an existing gas field, Bowdoin Gas Field.

Remarks or Special Concerns for this site

Well is a 1800' Mowry Formation test.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur, but will mitigate in time.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki

(title:) Chief Field Inspector

Date: June 26, 2010

Other Persons Contacted:

Montana Bureau of Mines and Geology, Groundwater Information Center

(Name and Agency)

Water wells in Valley County

(subject discussed)

June 26, 2010

(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES

MONTANA COUNTIES, Valley County

June 26, 2010

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____